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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|--------------------------|---------------------|------------------|
| 09/588,629 | 06/07/2000 | Alberto Jimenez Felstrom | 3660-27 | 8759 |

7590 02/27/2003

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EXAMINER

PATEL, KINARI M

| ART UNIT | PAPER NUMBER |
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2697

DATE MAILED: 02/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/588,629

Applicant(s)

JIMENEZ FELSTROM ET AL.

Examiner

Kinari Patel

Art Unit

2697

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, and 5 are rejected under 35 U.S.C. 102(b) as being unpatentable by Bridle (GB 2137791 A).

As per claim 1, Bridle discloses a spectral distance calculator (page 1, lines 4-5), comprising means for performing spectral distance calculations for comparison of an input spectrum (page 1, line 7), from an input signal in the presence of a noise signal (page 1, line 7), and a reference spectrum (page 1, lines 10-12), characterized by memory means for pre-storing a noise spectrum from the noise signal (page 1, line 51, Figure 3: the template noise spectrum estimate is inherently stored in memory), and means for masking the spectral distance between the input spectrum (page 1, column 1, lines 48-49) and the reference spectrum (page 1, column 1, lines 50-51) with respect to the pre-stored noise spectrum.

As per claim 2, Bridle discloses a spectral distance calculator according to claim 1, characterized by means for assigning the spectral distance between the input spectrum and the

Art Unit: 2697

reference spectrum a zero value for each frequency of the input speech spectra which is due to noise (page 2, line 63-64).

As per claim 5, a speech recognition system according to claim 4, characterized in that said complete spectral distance in the sum of the spectral distance calculations for the number of samples discerning the reference spectra from each other (page three, lines 10-11).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bridle (GB 2137791 A) in view of Sedgwick (EP 0240329 A2).

As per claim 3, Bridle discloses a spectral distance calculator according to claim 1. Bridle fails to teach a spectral distance calculator according to claim 1 characterized in that said noise has a lower level than the input spectrum. Calculating spectral distances wherein the noise has a lower level than the input spectrum is well known in the art as evidenced by Sedgwick. Sedgwick discloses signal levels representative of example sounds in regions where the signal is above a noise level (page 5, lines 46-47). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the spectral distance

Art Unit: 2697

calculator of Bridle wherein said noise has a lower level than the input spectrum for the purpose of recognizing speech in levels of noise that a present in real situations, for example, in situations where background noise is present.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bridle (GB 2137791 A) in view of Nakadai (US Patent No. 5,732,394).

As per claim 4, Bridle discloses a spectral distance calculator according to claim 1. Bridle fails to teach a speech recognition system for comparison of an input spectrum and a reference spectrum including a spectral distance calculator according to claim 1 characterized by selecting a reference spectrum minimizing a complete spectral distance between the input spectrum and the reference spectrum.

A speech recognition system for comparison of an input spectrum and a reference spectrum characterized by selecting a reference spectrum minimizing a complete distance between the input spectrum and the reference spectrum is well known in the art as evidenced by Nakadai. Nakadia discloses a word recognition method that performs pattern matching between unknown speech pattern and multiple reference templates, and detects a reference template that provides the smallest distance measures detected between the unknown speech pattern and the reference templates (Abstract; column 1, lines 63-67; column 2, lines 1-9). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the spectral distance calculator of Bridle to further comprise a speech recognition system for comparison of an input spectrum and a reference spectrum characterized by selecting means

Art Unit: 2697

for selecting a reference spectrum minimizing a complete spectral distance between the input spectrum and the reference spectrum for the purpose of matching the input signal spectrum against similarly formed reference signals among a set of stored reference signals and thereby minimizing the amount of error in the speech recognition system.

6. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bridle (GB 2137791 A) and Nakadai (US Patent No. 5,732,394) as applied to claim 4 above, and further in view of Nordwall (PCT/SE98/01292), and Martensson (US Patent No. 5,703,931).

As per claim 6, Bridle as modified by Nakadai discloses the speech recognition system of claim 4. Bridle fails to disclose a mobile telephone including a speech recognition system.

A mobile telephone including a speech recognition system is well known in the art as evidenced by Nordwall. Nordwall discloses a mobile telephone (Figure 1) including speech recognition means (page 9, lines 28-30).

Bridle further fails to teach a mobile telephone characterized by call answering means operatively connected to a speech recognition system, wherein said answering means is responsive to speech answering commands.

A mobile telephone characterized by call answering means, wherein call answering means is responsive to speech answering commands is well known in the art as evidenced by Martensson. Martensson discloses a portable telephone that the user can answer by talking or shouting to it (Abstract; column 5, line 2).

Art Unit: 2697

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the speech recognition system of claim 4 to include a mobile phone characterized by call answering means operatively connected to said speech recognition system, wherein said answering means is responsive to speech answering commands for the purpose of facilitating the operability of a mobile phone by the user, for example, to allow the user to quickly answer a mobile phone without physically picking up the phone, as taught by Martensson (Abstract).

As per claim 7, Bridle as modified by Nakadai and further modified by Nordwall and Martensson above discloses all the limitations of the mobile telephone according to claim 6. Bridle fails to disclose a mobile telephone according to claim 6 characterized in that said answering means is responsive to an accept call command for accepting a call.

A call answering means responsive to an accept call command for accepting a call is well known in the art as taught by Martensson. Martensson teaches a user answering an incoming call very quickly before the system times-out the call by talking or shouting to it even when the telephone is in a relatively inaccessible location (Abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile telephone of Bridle to wherein said answering means is responsive to an accept call command for accepting a call for the purpose of facilitating the operability of a mobile phone by the user, for example, to allow the user to quickly answer a mobile phone without physically picking up the phone, as taught by Martensson (Abstract).

Art Unit: 2697

As per claim 8, Bridle as modified by Nakadai and further modified by Nordwall and Martensson above discloses all the limitations of the mobile telephone according to claim 6. Bridle fails to disclose a mobile telephone according to claim 6, characterized in that said answering means is responsive to a reject call command for rejecting a call. A mobile telephone characterized in that said answering means is responsive to a reject call command for rejecting a call is well known in the art as evidenced by Martensson and Norwall.

Martensson teaches a user answering an incoming call very quickly before the system times-out the call by talking or shouting to it even when the telephone is in a relatively inaccessible location (Abstract). It easily follows that a user can talk at the phone to signal rejecting the call instead of accepting the call. As long as the voice recognition system is in place, any number of commands can be used to operative different functionalities of the mobile phone. Nordwall further discloses command words that are used to achieve recognition within voice recognition algorithms (page 10, lines 3-4). One of the command words may be "reject," for example.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile telephone of Bridle to wherein said answering means is responsive to reject a call command for rejecting a call for the purpose of facilitating the operability of a mobile phone by the user, for example, to allow the user to quickly disconnect a mobile phone call without physically picking up the phone and pushing a button on the phone to end the call.

Art Unit: 2697

As per claim 9, Bridle as modified by Nakadai and further modified by Nordwall and Martensson above discloses all the limitations of the mobile telephone according to claim 6. Bridle fails to disclose a mobile telephone according to claim 6, characterized in that said answering means is responsive to a forward call command for forwarding a call. A mobile telephone characterized in that said answering means is responsive to a forward call command for forwarding a call is well known in the art as evidenced by Martensson.

Martensson teaches a user answering an incoming call very quickly before the system times-out the call by talking or shouting to it even when the telephone is in a relatively inaccessible location (Abstract). It easily follows that a user can talk at the phone to signal forwarding the call instead of accepting the call. As long as the voice recognition system is in place, any number of commands can be used to operative different functionalities of the mobile phone. Nordwall further discloses command words that are used to achieve recognition within voice recognition algorithms (page 10, lines 3-4). One of the command words may be, "forward," for example.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile telephone of Bridle to wherein said answering means is responsive to forward a call command for forwarding a call for the purpose of facilitating the operability of a mobile phone by the user, for example, to allow the user to quickly call forward a mobile phone call without physically picking up the phone and pushing a series of buttons on the phone to forward the call.

Art Unit: 2697

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 6,032,116 to Asghar with respect to spectral distances

US Patent No. 5,970,446 to Goldberg with respect to speech recognition and noise

US Patent No. 5,742,927 to Crozier with respect to noise reduction

US Patent No. 5,142,585 to Taylor with respect to spectral analysis

US Patent No. 4,897,878 to Boll with respect to noise compensation in speech recognition

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kinari Patel whose telephone number is 703-305-8487. The examiner can normally be reached on 10 AM - 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery Hofsass can be reached on 703-305-4717. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-9553 for regular communications and 703-746-9553 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Application/Control Number: 09/588,629

Page 10

Art Unit: 2697

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February 21, 2003


Richemond Dorvil
Primary Examiner